



PTO/SB/08b (01-08)

Approved for use through 04/30/2008. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet	1	of	5	Attorney Docket Number	JKJ-003US
-------	---	----	---	------------------------	-----------

**Complete if Known**

Application Number	10/510,276-Conf. #9537
Filing Date	August 22, 2005
First Named Inventor	Robyn O'HEHIR
Art Unit	1644
Examiner Name	N. M. Rooney

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
	B1	WO-89/09260-A1	10-05-1989	The University of Melbourne		
	B2	WO-92/03550-A1	03-05-1992	The University of Melbourne		
	B3	WO-93/04174-A1	03-04-1993	The University of Melbourne		
	B4	WO-94/04564-A1	03-03-1994	The University of Melbourne		
	B5	WO-95/06728-A1	03-09-1995	Immologic Pharmaceutical Corporation		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C1	Attwood, Teresa K., "The Babel of Bioinformatics," <i>Science</i> , Vol. 290(5491):471-473 (2000)	
	C2	Blaher, Bella et al, "Identification of T-cell epitopes of Lol p 9, a major allergen of ryegrass ( <i>Lolium perenne</i> ) pollen," <i>J. Allergy Clin. Immunol.</i> , Vol. 98:124-132 (1996)	
	C3	Blumenthal et al., "Definition of an Allergen," <i>Allergens and Allergen Immunotherapy</i> , Ed. R. Lockey, S. Bukantz and J. Bousquet, New York: Marcel Dekker, pgs. 37-50 (2004)	
	C4	Bose, et al. Production and characterization of mouse monoclonal antibodies to allergenic epitopes on Lolpl (Rye I). <i>Immunology</i> . 1986 Oct;59(2):309-15.	
	C5	Bowie et al., "Deciphering the message in protein sequences: tolerance to amino acid substitutions," <i>Science</i> , Vol. 247(4948):1306-1310 (1990)	
	C6	Brieva, et al. Rapid purification of the main allergen of <i>Lolium perenne</i> by high-performance liquid chromatography. <i>J Chromatogr</i> . 1986 Nov 26;370(1):165-72.	
	C7	Burgess et al., "Possible Dissociation of the Heparin-binding and Mitogenis Activities of Heparin-binding (Acidic Fibroblast) Growth Factor-1 from Its Receptor-binding Activities by Site-directed Mutagenesis of a Single Lysine Residue," <i>J. Cell. Biol.</i> , Vol. 111:2129-2138	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)			<b>Complete if Known</b>		
			Application Number	10/510,276-Conf. #9537	
			Filing Date	August 22, 2005	
			First Named Inventor	Robyn O'HEHIR	
			Art Unit	1644	
			Examiner Name	N. M. Rooney	
Sheet	2	of	5	Attorney Docket Number	JKJ-003US

		(1990)	
C8	Burton, Matthew D. et al. "T-cell receptor contact and MHC binding residues of a major rye grass pollen allergen T-cell epitope," <i>J. Allergy Clin. Immunol.</i> , Vol. 103:255-261 (1999)		
C9	Chakrabarty S, et al. Detection of cross-reactive allergens in Kentucky bluegrass pollen and six other grasses by crossed radioimmuno-electrophoresis. <i>Int Arch Allergy Appl Immunol.</i> 1981;66(2):142-57.		
C10	Cook, et al. Induction of allergen-specific T cells by conjugates of N-formyl-methionyl-leucyl-phenylalanine and rye grass pollen extract. <i>Int Arch Allergy Appl Immunol.</i> 1988;85(1):104-8.		
C11	Cornford, et al. IgE-binding proteins from pine ( <i>Pinus radiata</i> D. Don) pollen: evidence for cross-reactivity with ryegrass ( <i>Lolium perenne</i> ). <i>Int Arch Allergy Appl Immunol.</i> 1990;93(1):41-6.		
C12	Cottam, et al. Immunological properties of chemically produced fragments of rye grass pollen extract. <i>Immunol Lett.</i> 1988 Apr;17(4):345-9.		
C13	Cottam, et al. Physicochemical and immunochemical characterization of allergenic proteins from rye-grass ( <i>Lolium perenne</i> ) pollen prepared by a rapid and efficient purification method. <i>Biochem J.</i> 1986 Mar 1;234(2):305-10.		
C14	de Lalla, Claudia et al, "Cutting Edge: Identification of Novel T Cell Epitopes in Lol p5a by Computational Prediction," <i>The Journal of Immunology</i> , Vol. 163:1725-1729 (1999)		
C15	Ellis. New Technologies for Making Vaccines. <i>Vaccines.</i> 1988, W.B. Saunders Company. pp. 568-575.		
C16	Esch, et al. Isolation and characterization of a major cross-reactive grass group I allergenic determinant. <i>Mol Immunol.</i> 1989 Jun;26(6):557-61.		
C17	Freidhoff, et al. Association of HLA-DR3 with human immune response to Lol p I and Lol p II allergens in allergic subjects. <i>Tissue Antigens.</i> 1988 Apr;31(4):211-9.		
C18	Freidhoff, et al. A study of the human immune response to <i>Lolium perenne</i> (rye) pollen and its components, Lol p I and Lol p II (Rye I and Rye II). II. Longitudinal variation of antibody levels in relation to symptomatology and pollen exposure and correction of seasonally elevated antibody levels to basal values. <i>J Allergy Clin Immunol.</i> 1987 Nov;80(5):646-55.		
C19	Freidhoff, et al. A study of the human immune response to <i>Lolium perenne</i> (rye) pollen and its components, Lol p I and Lol p II (rye I and rye II). I. Prevalence of reactivity to the allergens and correlations among skin test, IgE antibody, and IgG antibody data. <i>J Allergy Clin Immunol.</i> 1986 Dec;78(6):1190-201.		
C20	Griffith, et al. Cloning and sequencing of Lol pl, the major allergenic protein of rye-grass pollen. <i>FEBS Lett.</i> 1991 Feb 25;279(2):210-5.		
C21	Hatton, et al. Molecular Cloning of Kentucky Bluegrass Pollen Allergens. <i>J. Allergy Immunology.</i> 1988. 81(1):183.		
C22	Hill, et al. Specific cellular and humoral immunity in children with grass pollen asthma. <i>Clin Allergy.</i> 1982 Jan;12(1):83-9.		
C23	Hopp, et al. Prediction of protein antigenic determinants from amino acid sequences. <i>Proc Natl Acad Sci U S A.</i> 1981 Jun;78(6):3824-8.		
C24	Howlett, et al. Cross-reactivity between Acacia (wattle) and rye grass pollen allergens. Detection of allergens in Acacia (wattle) pollen. <i>Clin Allergy.</i> 1982 May;12(3):259-68.		
C25	Kahn, et al. Monoclonal antibodies to the major <i>Lolium perenne</i> (rye grass) pollen allergen Lol p I (Rye I). <i>Mol Immunol.</i> 1986 Dec;23(12):1281-8.		
C26	Klysner, et al. Group V allergens in grass pollens: IV. Similarities in amino acid compositions		

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>			<b>Complete if Known</b>		
			Application Number	10/510,276-Conf. #9537	
			Filing Date	August 22, 2005	
			First Named Inventor	Robyn O'HEHIR	
			Art Unit	1644	
			Examiner Name	N. M. Rooney	
Sheet	3	of	5	Attorney Docket Number	JKJ-003US

		and NH2-terminal sequences of the group V allergens from <i>Lolium perenne</i> , <i>Poa pratensis</i> and <i>Dactylis glomerata</i> . Clin Exp Allergy. 1992 Apr;22(4):491-7.	
	C27	Kumar, et al. Amino acid variations at a single residue in an autoimmune peptide profoundly affect its properties: T-cell activation, major histocompatibility complex binding, and ability to block experimental allergic encephalomyelitis. Proc Natl Acad Sci U S A. 1990 Feb;87(4):1337-41.	
	C28	Lazar et al., "Transforming Growth Factor alpha: Mutation of Aspartic Acid 47 and Leucine 48 Results in Different Biological Activities," Mol. Cell. Biol., Vol. 8(3):1247-1252 (1988)	
	C29	Lin, et al. Isolation and characterization of <i>Poa p</i> I allergens of Kentucky bluegrass pollen with a murine monoclonal anti-Lol p I antibody. Int Arch Allergy Appl Immunol. 1988;87(3):294-300.	
	C30	Lin, et al. Mapping of epitopes on <i>Poa p</i> I and <i>Lol p</i> I allergens with monoclonal antibodies. Int Arch Allergy Appl Immunol. 1990;91(3):217-23.	
	C31	Lowenstein, et al. Immunological partial identity and in vitro inhibitory effect of two major timothy pollen allergens to whole pollen extract of four grasses. Int Arch Allergy Appl Immunol. 1978;57(4):379-83.	
	C32	Lowenstein, et al. Isolation and partial characterization of three allergens of timothy pollen. Allergy. 1978 Feb;33(1):30-41.	
	C33	Lowenstein, et al. Purification of timothy pollen allergens followed by quantitative immunoelectrophoresis. Int Arch Allergy Appl Immunol. 1975;49(1-2):95-8.	
	C34	Lowenstein, et al. Timothy pollen allergens. Allergy. 1980 Apr;35(3):188-91.	
	C35	Margalit, et al. Prediction of immunodominant helper T cell antigenic sites from the primary sequence. J Immunol. 1987 Apr 1;138(7):2213-29.	
	C36	Marsh, et al. Induction of IgE-mediated immediate hypersensitivity to group I rye grass pollen allergen and allergoids in non-allergic man. Immunology. 1972 Jun;22(6):1013-28.	
	C37	Martin, et al. Cross-allergenicity among the grasses. Ann Allergy. 1985 Feb;54(2):99-104.	
	C38	Matthiesen, et al. Group V allergens in grass pollens. I. Purification and characterization of the group V allergen from <i>Phleum pratense</i> pollen, Phl p V. Clin Exp Allergy. 1991 May;21(3):297-307.	
	C39	Matthiesen, et al. Group V allergens in grass pollens. II. Investigation of group V allergens in pollens from 10 grasses. Clin Exp Allergy. 1991 May;21(3):309-20.	
	C40	Mecheri, et al. Purification and characterization of a major allergen from <i>Dactylis glomerata</i> pollen: the Ag Dg1. Int Arch Allergy Appl Immunol. 1985;78(3):283-9.	
	C41	Mohapatra, et al. Isolation and characterization of a cDNA clone encoding an IgE-binding protein from Kentucky bluegrass ( <i>Poa pratensis</i> ) pollen. Int Arch Allergy Appl Immunol. 1990;91(4):362-8.	
	C42	Mourad, et al. Allergenicity and cross-reactivity of rye grass pollen extracts revealed by monoclonal antibodies. J Immunol Methods. 1986 May 1;89(1):53-9.	
	C43	Mourad, et al. Mapping of <i>Lol p</i> I allergenic epitopes by using murine monoclonal antibodies. Mol Immunol. 1989 Nov;26(11):1051-7.	
	C44	Mourad, et al. Study of the epitope structure of purified Dac G I and <i>Lol p</i> I, the major allergens of <i>Dactylis glomerata</i> and <i>Lolium perenne</i> pollens, using monoclonal antibodies. J Immunol. 1988 Nov 15;141(10):3486-91.	
	C45	Ngo et al., "Computational Complexity, Protein Structure Prediction, and the Levinthal Paradox," The Protein Folding Problem and Tertiary Structure Prediction, Ed. K. Merz and S.	

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>			<b>Complete if Known</b>		
			Application Number	10/510,276-Conf. #9537	
			Filing Date	August 22, 2005	
			First Named Inventor	Robyn O'HEHIR	
			Art Unit	1644	
			Examiner Name	N. M. Rooney	
Sheet	4	of	5	Attorney Docket Number	JKJ-003US

		Le Grand, Boston: Birkhauser, pgs. 491-495 (1994)	
	C46	Olsen, et al. Identification and characterization of the Poa p IX group of basic allergens of Kentucky bluegrass pollen. J Immunol. 1991 Jul 1;147(1):205-11.	
	C47	Ong, Eng Kok et al, "Cloning of a cDNA encoding a group-V (group-IX) allergen isoform from rye-grass pollen that demonstrates specific antigenic immunoreactivity," Gene, Vol. 134:235-240 (1993)	
	C48	Ong, E.K. et al, "Mapping of the Antigenic and Allergenic Epitopes of Lol p VB Using Gene Fragmentation," Molecular Immunology, Vol. 32(4):295-302 (1995)	
	C49	Perez, et al. cDNA cloning and immunological characterization of the rye grass allergen Lol p I. J Biol Chem. 1990 Sep 25;265(27):16210-5.	
	C50	Schramm et al., "Allergen Engineering,' Variants of the Timothy Grass Pollen Allergen Phl p 5b with Reduced IgE-Binding Capacity but Conserved T Cell Reactivity," J. Immunol., Vol. 162:2406-2414 (1999)	
	C51	Silvanovich, et al. Nucleotide sequence analysis of three cDNAs coding for Poa p IX isoallergens of Kentucky bluegrass pollen. J Biol Chem. 1991 Jan 15;266(2):1204-10.	
	C52	Singh, et al. Grass pollen allergens: antigenic relationships detected using monoclonal antibodies and dot blotting immunoassay. Int Arch Allergy Appl Immunol. 1985;78(3):300-4.	
	C53	Singh, et al. Isolation of cDNA encoding a newly identified major allergenic protein of rye-grass pollen: intracellular targeting to the amyloplast. Proc Natl Acad Sci U S A. 1991 Feb 15;88(4):1384-8.	
	C54	Singh, et al. Molecular biology of rye-grass pollen allergens. Monogr Allergy. 1990;28:101-20.	
	C55	Skolnick, Jeffrey et al., "From genes to protein structure and function: novel applications of computational approaches in the genomic era," Trends in Biotech., Vol. 18:34-39 (2000)	
	C56	Smart, et al. Development of monoclonal mouse antibodies specific for allergenic components in ryegrass (Lolium perenne) pollen. Int Arch Allergy Appl Immunol. 1983;72(3):243-8.	
	C57	Smart, et al. Rapid batch fractionation of ryegrass pollen allergens. Int Arch Allergy Appl Immunol. 1980;62(2):179-87.	
	C58	Standing, et al. Distribution of a major allergen of rye grass (Lolium perenne) pollen between other grass species. Int Arch Allergy Appl Immunol. 1987;83(1):96-103.	
	C59	Standing, et al. Induction of T-helper cell activity by fragments of rye grass pollen extract produced by digestion with chymotrypsin. Int Arch Allergy Appl Immunol. 1988;87(4):337-41.	
	C60	Suphioglu, Cenk et al, "Molecular basis of IgE-recognition of Lol p 5, a major allergen of rye-grass pollen," Molecular Immunology, Vol. 35:293-305 (1998)	
	C61	Suphioglu et al., "Molecular cloning, expression and immunological characterisation of Lol p 5C, a novel allergen isoform of rye grass pollen demonstrating high IgE reactivity," FEBS, Vol. 462:435-441 (1999)	
	C62	Swoboda, Ines et al, "Hypoallergenic Forms of the Ryegrass Pollen Allergen Lol p 5 as Candidates for Immunotherapy," International Archives of Allergy and Immunology, Vol. 124:380-382 (2001)	
	C63	Swoboda, Ines et al, "Mutants of the major ryegrass pollen allergen, Lol p 5, with reduced IgE-binding capacity: candidates for grass pollen-specific immunotherapy," Eur. J. Immunol., Vol. 32:270-280 (2002)	
	C64	Van Hage-Hamsten, et al. Differences in the Allergenic Cross-reactivity Patterns Between Non Pyroglyphid and Pyroglyphid Mites in Two Populations. J. Allergy Clin. Immunol. 1990. 85:279.	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>			<b>Complete if Known</b>		
			Application Number	10/510,276-Conf. #9537	
			Filing Date	August 22, 2005	
			First Named Inventor	Robyn O'HEHIR	
			Art Unit	1644	
			Examiner Name	N. M. Rooney	
Sheet	5	of	5	Attorney Docket Number	JKJ-003US

	C65	Van Ree, et al. Characterization with monoclonal and polyclonal antibodies of a new major allergen from grass pollen in the group I molecular weight range. J Allergy Clin Immunol. 1989 Jan;83(1):144-51.	
	C66	Ventas, et al. OP46: Monoclonal Antibodies to a Major Allergen from Lepidoglyphus Destructor. Clin. Experimental Allergy. 1990. 20:47.	
	C67	Vithanage et al. Immunocytochemical localization of water-soluble glycoproteins, including group 1 allergen, in pollen of ryegrass, Lolium perenne, using ferritin-labelled antibody. Histochem J. 1982 Nov;14(6):949-66.	
	C68	Walsh, et al. Cloning of cDNA coding for an allergen of Cocksfoot grass (Dactylis glomerata) pollen. Int Arch Allergy Appl Immunol. 1989;90(1):78-83.	
	C69	Walsh, et al. Monoclonal antibodies to proteins from cocksfoot grass (Dactylis glomerata) pollen: isolation and N-terminal sequence of a major allergen. Int Arch Allergy Appl Immunol. 1990;91(4):419-25.	
	C70	Wheeler, et al. Retained T-cell reactivity of rye grass pollen extract following cleavage with cyanogen bromide and nitrothiocyanobenzoic acid. Int Arch Allergy Appl Immunol. 1988;86(1):1-8.	
	C71	Zhang, et al. Crossreactivity and Variable Allergenicity of a Poa p IX Allergen. J. Allergy. 1991. 87:325.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.